



[4910-13-P]

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA- 2016-9305; Directorate Identifier 2016-NM-073-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; Airbus Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to supersede Airworthiness Directive (AD) 2012-22-12, for all Airbus Model A330-243, -243F, -341, -342, and -343 airplanes. AD 2012-22-12 currently requires inspecting piccolo tubes, piccolo tube mount links, the aft side of the forward bulkhead, and outer boundary angles (OBAs) for cracks, fractures, and broken links, and doing corrective actions if necessary. Since we issued AD 2012-22-12, we have received reports of loose and missing attachment rivets of the inner boundary angles (IBA) and OBA of the forward bulkhead. This proposed AD would retain certain requirements of AD 2012-22-12, and add repetitive inspections for pulled, loose, and missing attachment rivets of the IBA and OBA of the forward bulkhead, and related investigative and corrective actions if necessary. We are proposing this AD to detect and correct degraded structural integrity of the engine nose cowl, which in the case of forward bulkhead damage in conjunction with a broken piccolo tube, could lead to damage to the engine and operation in icing conditions with reduced thermal anti-ice (TAI) performance.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For Airbus service information identified in this NPRM, contact Airbus SAS – Airworthiness Office – EAL, 1 Rond Point Maurice Bellonte, 31707 Blagnac Cedex, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 45 80; email [airworthiness.A330-A340@airbus.com](mailto:airworthiness.A330-A340@airbus.com); Internet <http://www.airbus.com>.

For Rolls-Royce service information identified in this NPRM, contact Rolls-Royce Plc, Technical Publications, P.O. Box 31, Derby, DE24 8BJ, United Kingdom; telephone 44 (0) 1332 245882; fax 44 (0) 1332 249936; Internet <http://www.Rolls-Royce.com>.

You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-9305; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Vladimir Ulyanov, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1138; fax 425-227-1149.

### **SUPPLEMENTARY INFORMATION:**

#### **Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2016-9305; Directorate Identifier 2016-NM-073-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all

comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

## **Discussion**

On October 26, 2012, we issued AD 2012-22-12, Amendment 39-17248 (77 FR 67263, November 9, 2012) (“AD 2012-22-12”). AD 2012-22-12 requires actions intended to address an unsafe condition on all Airbus Model 330-243, -243F, -341, -342, and -343 airplanes.

Since we issued AD 2012-22-12, we have received reports of loose or missing attachment rivets of the IBA and OBA of the forward bulkhead.

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA Airworthiness Directive, 2016-0086R1, dated May 13, 2016 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for all Airbus Model 330-243, -243F, -341, -342, and -343 airplanes. The MCAI states:

During shop visit, cracks were found in several primary structural parts of Rolls Royce (RR) Trent 700 engine air intake cowls, specifically in the forward bulkhead web, web stiffeners and outer boundary angles (OBA). In addition, several attachment links were found severely worn, and some became detached. In two cases, the thermal anti-ice (TAI) piccolo tube was found fractured. Investigation results show that the cracks are most likely due to acoustic excitation and vibration.

A broken piccolo tube, if not detected and corrected, in conjunction with forward air intake cowl bulkhead damage, could lead to in-flight detachment of the outer barrel, possibly resulting in damage to the engine or reduced control of the aeroplane.

To address this potential unsafe condition, Airbus issued Service Bulletin (SB) A330-71-3025, making reference to RR SB RB.211-71-AG416, to provide inspection instructions, and, depending on findings, accomplishment of applicable corrective action(s).

Consequently, EASA issued AD 2011-0062 [[http://ad.easa.europa.eu/blob/easa\\_ad\\_2011\\_0062\\_superse ded.pdf/AD\\_2011-0062\\_1](http://ad.easa.europa.eu/blob/easa_ad_2011_0062_superse ded.pdf/AD_2011-0062_1)] [which corresponds to FAA AD 2012-22-12] to require repetitive special detailed inspections (SDI) [borescope] of the piccolo tube and affected mount links, the aft side of forward bulkhead, inner boundary angles (IBA) and OBA of the RR Trent 700 air intake cowl assemblies, and, depending on findings, accomplishment of applicable corrective action(s).

Since EASA AD 2011-0062 was issued, some occurrences were reported of finding attachment rivets of the IBA and OBA either pulled, loose, or missing during inspection. It was determined that the affected IBA and OBA rivets may not have been previously inspected if operators accomplished the required inspection in accordance with the instructions of RR SB RB.211-71-AG416 at original issue.

To address this potentially missed inspection, Airbus published SB A330-71-3033, providing instructions for a one-time detailed inspection of the IBA and OBA attachment rivets, to be accomplished if the previous inspection was accomplished using the instructions of RR SB RB.211-71-AG416 at original issue. Airbus also published SB A330-71-3025 Revision 2, adding an inspection of the IBA and OBA attachment rivets, to be used if the previous inspection was accomplished using RR SB RB.211-71-AG416 at issue 1 or later. Airbus also published SB A330-71-3032 to introduce a modification

(mod) that would eliminate the need for repetitive inspections.

For the reasons described above, this [EASA] AD partially retains the requirements of EASA AD 2011-0062, which is superseded, and requires an additional [special] detailed inspection [borescope] of IBA and OBA forward bulkhead attachment rivets. This [EASA] AD also introduces an optional terminating action (Airbus mod 204615, embodied in production, which can be embodied in service with Airbus SB A330-71-3032) for the repetitive inspections required by this [EASA] AD.

This [EASA] AD is revised to improve clarity, including Airbus and RR SB references and inserting Notes to identify the Part Numbers (P/N) of the affected engine air intake nose cowl assemblies.

Related investigative actions include inspecting for cracked or fractured piccolo tubes and for broken piccolo tube links. Corrective actions include replacing the engine air intake cowl assembly and repair of pulled, loose, or missing rivets.

The compliance times for the related investigative and corrective actions range from before further flight to within 100 flight cycles, depending on the findings of the inspections.

The repetitive inspection interval for the IBA, OBA, and forward bulkhead varies depending on inspection findings, and ranges between 200 and 5,000 flight cycles. The repetitive inspection interval for the piccolo tubes and links is 2,500 flight cycles.

You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-9305.

#### **Related Service Information under 1 CFR part 51**

Airbus has issued Service Bulletin A330-71-3025, Revision 02, including Appendices 01 and 02, dated December 9, 2015. This service information describes

procedures for doing inspections of the piccolo tube and mount links, the aft side of the forward bulkhead, the IBA, OBA, and the forward bulkhead on the engine air intake cowl assemblies; and related investigative and corrective actions.

Airbus has issued Service Bulletin A330-71-3032, dated December 10, 2014. This service information describes procedures for doing a modification that improves the air intake primary structure and adds a new piccolo tube supporting structure on the engine air intake cowl assemblies.

Airbus has issued Service Bulletin A330-71-3033, dated December 14, 2015. This service information describes procedures for doing an inspection for pulled, loose, and missing attachment rivets of the IBA and OBA of the forward bulkhead of the forward bulkhead, and corrective actions.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

#### **FAA's Determination and Requirements of this Proposed AD**

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all pertinent information and determined an unsafe condition exists and is likely to exist or develop on other products of the same type design.

#### **Costs of Compliance**

We estimate that this proposed AD affects 47 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

**Estimated costs**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Inspections (new proposed action)	12 work-hours X \$85 per hour = \$1,020 per inspection cycle	\$0	\$1,020 per inspection cycle	\$47,940 per inspection cycle

**Estimated costs for optional actions**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>
Modification	Up to 142 work-hours X \$85 per hour = \$12,070	<sup>[1]</sup>	Up to \$12,070

<sup>[1]</sup> We have received no definitive data that would enable us to provide material cost estimates for the optional actions specified in this proposed AD.

We estimate the following costs to do any necessary repairs that would be required based on the results of the proposed inspection. We have no way of determining the number of aircraft that might need these repairs:

**On-condition costs**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>
Repairs	16 work-hours X \$85 per hour = \$1,360	<sup>[2]</sup>	\$1,360

<sup>[2]</sup> We have received no definitive data that would enable us to provide material cost estimates for the on-condition actions specified in this proposed AD.



### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

1. Is not a "significant regulatory action" under Executive Order 12866;
2. Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);

3. Will not affect intrastate aviation in Alaska; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

#### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by removing Airworthiness Directive (AD) 2012-22-12, Amendment 39-17248 (77 FR 67263, November 9, 2012), and adding the following new AD:

**Airbus:** Docket No. FAA-2016-9305; Directorate Identifier 2016-NM-073-AD.

#### **(a) Comments Due Date**

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

This AD replaces AD 2012-22-12, Amendment 39-17248 (77 FR 67263, November 9, 2012) (“AD 2012-22-12”).

**(c) Applicability**

This AD applies to Airbus Model A330-243, -243F, -341, -342, and -343 airplanes, certificated in any category, all serial numbers.

**(d) Subject**

Air Transport Association (ATA) of America Code 71, Powerplant.

**(e) Reason**

This AD was prompted by reports of cracking of air intake cowls on Rolls-Royce Trent engines, worn and detached attachment links, and fractured thermal anti-ice (TAI) piccolo tubes, and loose, or missing attachment rivets of the inner boundary angles (IBA) and the outer boundary angles (OBA) of the forward bulkhead. We are issuing this AD to detect and correct degraded structural integrity of the engine nose cowl, which in the case of forward bulkhead damage in conjunction with a broken piccolo tube, could lead to damage to the engine and operation in icing conditions with reduced thermal anti-ice (TAI) performance.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Affected Engine Air Intake Nose Cowl Assemblies**

The engine air intake nose cowl assemblies affected by this AD have part number (P/N) SJ30020, P/N SJ30361, P/N SJ30687, P/N SJ30810, and P/N SJ30811, as specified in Rolls-Royce Service Bulletin RB.211-71-H205, dated July 7, 2014.

(1) The engine air intake nose cowl assemblies having P/N SJ30020, P/N SJ30361, and P/N SJ30687 can be modified (reworked and re-identified as P/N SJ30810

(for P/N SJ30020, P/N SJ30361) and P/N SJ30811 (for P/N SJ30687)), as specified in Rolls-Royce Service Bulletin RB.211-71-H205, dated July 7, 2014.

(2) The engine air intake nose cowl assemblies having P/N SJ30810 and P/N SJ30811 can be modified (reworked and re-identified as P/N SJ30820 and P/N SJ30821, respectively), as specified in Rolls-Royce Service Bulletin RB.211-71-H847, dated December 2, 2014.

**(h) Inspections, Related Investigative Actions, and Corrective Actions**

For airplanes in pre-Airbus Modification 204615 and pre-Airbus Service Bulletin A330-71-3032 configuration: At the applicable times specified in paragraph (h)(1) or (h)(2) of this AD, do a special detailed inspection of the piccolo tube and affected mount links, the aft side of the forward bulkhead, and the IBA and OBA of the affected engine air intake cowl assemblies specified in paragraph (g) of this AD; and do all applicable related investigative and corrective actions; in accordance with the Accomplishment Instructions of Airbus Service Bulletin A330-71-3025, Revision 02, including Appendices 01 and 02, dated December 9, 2015, except as required by paragraph (i) of this AD. Do all applicable related investigative and corrective actions at the applicable time specified in paragraph 1.E., "Compliance," of Airbus Service Bulletin A330-71-3025, Revision 02, including Appendices 01 and 02, dated December 9, 2015. Repeat the inspections of the piccolo tube and affected mount links, the aft side of the forward bulkhead, and the IBA and OBA of the engine air intake cowl assemblies thereafter at the applicable intervals specified in paragraph 1.E., "Compliance," of Airbus Service Bulletin A330-71-3025, Revision 02, including Appendices 01 and 02, dated

December 9, 2015. Accomplishment of corrective actions does not constitute terminating action for the repetitive inspections required by this paragraph.

(1) For any engine air intake cowl assembly that has accumulated fewer than 5,000 flight cycles since its first installation on an airplane as of the effective date of this AD: Inspect within 24 months after the engine air intake cowl assembly has accumulated 5,000 total flight cycles.

(2) For any engine air intake cowl assembly that has accumulated 5,000 or more flight cycles since its first installation on an airplane as of the effective date of this AD: Inspect within 24 months after the effective date of this AD.

**(i) Service Information Exception**

Where Airbus Service Bulletin A330-71-3025, Revision 02, including Appendices 01 and 02, dated December 9, 2015, specifies to contact Bombardier Aerospace-Shorts for instructions, before further flight, repair using a method approved by the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or the European Aviation Safety Agency (EASA); or Airbus's EASA Design Organization Approval (DOA).

**(j) Optional Terminating Action**

Modification of an airplane in accordance with the Accomplishment Instructions of Airbus Service Bulletin A330-71-3032, dated December 10, 2014, constitutes terminating action for the repetitive inspections required by paragraph (h) of this AD for the modified airplane only.

**(k) Parts Installation Limitation**

As of the effective date of this AD, any pre-Airbus modification 204615 part may be installed on any airplane provided that, at the earlier of the applicable times specified in paragraphs (h)(1) and (h)(2) of this AD following installation, the actions required by paragraph (h) of this AD have been accomplished on the pre-Airbus Modification 204615 part.

**(l) Credit for Previous Actions**

This paragraph provides credit for actions required by paragraph (h) of this AD, if those actions were performed before the effective date of this AD using Airbus Service Bulletin A330-71-3025, dated January 10, 2011; or Airbus Service Bulletin A330-71-3025, Revision 01, dated October 24, 2012; provided that, within 1,050 flight cycles after the effective date of this AD, a special detailed inspection for pulled, loose, and missing attachment rivets of the IBA and OBA of the forward bulkhead is accomplished; and all applicable corrective actions are done; in accordance with the Accomplishment Instructions of Airbus Service Bulletin A330-71-3033, dated December 14, 2015. Do all applicable corrective actions before further flight. Accomplishment of corrective actions does not constitute terminating action for the repetitive inspections required by paragraph (h) of this AD.

**(m) Other FAA AD Provisions**

The following provisions also apply to this AD:

**(1) Alternative Methods of Compliance (AMOCs):** The Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA, has the authority to approve

AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the International Branch, send it to ATTN: Vladimir Ulyanov, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-1138; fax 425-227-1149. Information may be emailed to: 9-ANM-116-AMOC-REQUESTS@faa.gov.

(i) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

(ii) AMOCs approved previously in accordance with 2012-22-12 are not approved as AMOCs with this AD.

**(2) Contacting the Manufacturer:** As of the effective date of this AD, for any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA; or the European Aviation Safety Agency (EASA); or Airbus's EASA Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

**(3) Required for Compliance (RC):** If any service information contains procedures or tests that are identified as RC, those procedures and tests must be done to comply with this AD; any procedures or tests that are not identified as RC are

recommended. Those procedures and tests that are not identified as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC, provided the procedures and tests identified as RC can be done and the airplane can be put back in an airworthy condition. Any substitutions or changes to procedures or tests identified as RC require approval of an AMOC.

**(n) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) EASA Airworthiness Directive 2016-0086R1, dated May 13, 2016, for related information. This MCAI may be found in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-9305.

(2) For Airbus service information identified in this AD, contact Airbus SAS – Airworthiness Office – EAL, 1 Rond Point Maurice Bellonte, 31707 Blagnac Cedex, France; telephone +33 5 61 93 36 96; fax +33 5 61 93 45 80; email [airworthiness.A330-A340@airbus.com](mailto:airworthiness.A330-A340@airbus.com); Internet <http://www.airbus.com>.

(3) For Rolls-Royce service information identified in this AD, contact Rolls-Royce Plc, Technical Publications, P.O. Box 31, Derby, DE24 8BJ, United Kingdom; telephone 44 (0) 1332 245882; fax 44 (0) 1332 249936; Internet <http://www.Rolls-Royce.com>.



(4) You may view this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on October 28, 2016.

Dionne Palermo,  
Acting Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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